Stem cells deliver anti-cancer therapy to treat glioma

Posted: June 14, 2010

Created: 14/06/2010 - 08:11

Looks like the FDA agrees with our choice of grantees. They've approved a clinical trial based on work led by Karen Aboody (shown in photo) at City of Hope using neural stem cells to target and kill high-grade gliomas. She's the leader of a CIRM disease team that we funded to develop a second generation version of this therapy.

The clinical trial will test a genetically altered human neural stem cell line with a known tendency to migrate toward tumors. Those cells contain an enzyme, which accumulates where those stem cells congregate in the neighborhood of the tumor. When the patient is given a relatively harmless chemical called 5-FC, the enzyme converts it to an active chemotherapy agent just at the location of the tumor.

In a press release, the City of Hope quotes Karen Aboody as saying:

> "Using neural stem cells as delivery vehicles for therapy may allow us to target concentrated therapeutics specifically to tumor sites while reducing the undesirable side effects of current chemotherapy regimens, including toxicity to normally dividing bone marrow, gastrointestinal tract, skin and hair cells."

Bettina Steffen, M.D., who leads CIRM's disease team program, says Aboody's disease team project uses the same cell line that's also used in the trial that just got FDA approval. That means when she's ready to go to the FDA for her disease team work, there will be prior experience with the cell line. "Hitting all the hurdles to get the cell line approved is actually a huge deal, as this facilitates her path to the clinic with the CIRM-funded disease team program," Steffen says.

You can read more about stem cell approaches to treating glioma on CIRM's glioma facts page.

A.A.

Tags: Cancer, aboody, glioma, city of hope